



Environmental & Field Science Workshop for K-12 Educators

Friday, May 2 and Saturday, May 3, 2003

Bay Cliff Health Camp

Workshop Highlights

FRIDAY

- ✦ Energy Education Methods & Materials
- ✦ Developing Residential Environmental Education Programs
- ✦ Teaching Science Through a Native American Perspective
- ✦ U.P. Geology Field Trip
- ✦ Schoolyard Gardenening Lessons
- ✦ Teaching with Birds

SATURDAY

- ✦ Community Planning & the Visual Environment
- ✦ Global Climate Change Activities
- ✦ Wonderwise: A Women in Science Learning Series
(sponsored by 4-H)
- ✦ Bog Exploration and Teaching Tips

Workshop Sponsors

- ✦ U.S. Fish and Wildlife Service at Seney National Wildlife Refuge
- ✦ National Park Service at Pictured Rocks National Lakeshore
- ✦ Western Upper Peninsula Center for Science, Mathematics and Environmental Education at Michigan Tech University
- ✦ Marquette-Alger ISD, Eastern U.P. ISD, Delta-Schoolcraft ISD, Dickinson-Iron ISD, Gogebic-Ontonagon ISD
- ✦ Northwoods Math & Science Center
- ✦ Seaborg Center at Northern Michigan University

TEACHING WITH THE OUTDOORS

Environmental & Field Science Workshop for K-12 Educators

Friday, May 2 and

Saturday, May 3, 2003

Bay Cliff Camp

(In Big Bay, Michigan)



PROGRAM

FRIDAY

9:30 Registration and snacks

10- 1pm Choose between three:

(1) Energy Education Methods and Materials -

Dr. Marty Hetherington

Energy conservation units developed for K-2, 3-4, 5-6 and 7-8 grade students, developed by MSU with a National Science Foundation Grant. Receive copies of these units which are user friendly and hands-on, minds- on fun!

(2) Developing Residential Environmental Education Programs

David White

Participate in several activities from Earthkeepers, a three day program for upper elementary students. Learners earn the KEYS to becoming an Earthkeeper, and pledge to make changes in their own daily lives to reduce their impact on the natural world, and share what they have learned with others.

(3) Teaching Science Through a Native American Perspective

Ally Krebs & Kim Swanberg

Explore the Medicine Wheel teachings indigenous to this region of the U.P, including the concepts of directions (N,S, E, W), ecological inter-relationships of creatures and landscapes, responsibility for stewardship of our air, earth, fire and water. Create a wheel you can take back to your classroom. Resources for Native Curriculum Inclusion will be provided. Grades K-12

1-2 Lunch

2-5pm Choose between three:

(1) U.P. Geology Field Trip

Dr. John Anderton and Mark Sanderson

Take a field visit and gain the background knowledge you need to teach lessons on ancient (post-glacial) shoreline features and holocene geomorphology, including connections to using ancient shoreline features in the study of archaeology. Grades 7-12.

(2) Looks Count: Community Planning and
the Visual Environment - *Joan Chadde*

A new interdisciplinary unit that engages students in identifying the character of their community, evaluating their community's appearance, conducting public opinion surveys, designing a community enhancement project, and making presentations to decision-makers. You'll receive copies of the new curriculum unit and a planning guidebook. Grades 5-12.

(3) Migratory Birds - Birds of Two Worlds

Marianne Kronk and David Kronk

Fly home with some migratory bird educational resources that you

(birds, continued....) can use immediately, as well as contacts for other resources. This fast-paced, hands on session will present a variety of ways to teach the concepts of migration, threats to migratory birds, habitat, identification, and ways to learn about the "other world" that 'our' birds migrate to. Grades K-12

6-7 Dinner

7:15 – 8:15pm Lumberjack Era - Lynne Emerick

A visual step back in town that uses historic photographs and first hand accounts of the white pine lumbering boom times - from the mid 1800's to the early 1900's.

8:30 - 9:30 Learning Games in the Outdoors!

Dave & Marianne Kronk

Kids love games! Learn active outdoor games designed to teach science concepts. Materials to be explored include curricula by Joseph Cornell, Steve Van Matre, NatureScope, & Outdoor Biological Instructional Strategies.

Evening Campfire stories, songs and smores!

SATURDAY:

6am – 7:30 Bird Hike or Magic Spot Activity

7:30 - 8am Breakfast

8-10am Choose between two:

(1) Schoolyard Gardening:

Teaching with Vegetables and Butterflies

Pam Schmidt

Develop an inquiry based science program for your school, by planting vegetables for food and native plants to attract butterflies! Learn ideas for gardening in the U.P. during the school year, and receive lesson plans and Michigan Content Standards Correlations. Grades K-8.

(2) Climate Change, Wildlife, and Wildlands

Marianne Kronk

Get your hands on some cool tools to use in teaching about global warming, including slideshows, interactive activities, fact sheets, and case studies. Grades 7-12.

10:30 – 12:30 Choose between two:

(1) Wonderwise: Women in Science

Learning Series (sponsored by 4-H)

Christyne Casselman

Bring Women Scientists into your Classroom for the Ultimate Science Field Trip! This series of learning kits introduces you to women who have made science their career. The kits are designed for 4th-6th grade students, and are produced by the University of Nebraska State Museum. The series is funded by the Howard Hughes Medical Institute and the Informal Science Education Program of the National Science Foundation.

(2) Bog Exploration and Teaching Tips - *Dave Kronk*

Bogs are mysterious, secretive and full of a diversity of life forms from orchids to sandhill cranes and insect eating plants! Learn safe ways to explore these unique habitats with your students. Bogs as teaching tools can ignite a sense of wonder in your students. They can also give them a feeling of accomplishment by surviving a trek through such a wet, bouncy and muddy place! Grades K-12

12:30 Lunch and Evaluations

REGISTRATION

Workshop registration is \$50 for both days (\$25 for university students for both days). Registration includes lunch and dinner on Friday, plus breakfast and lunch on Saturday. Some sessions require an additional fee for teacher kits and activity guides.

Registration Deadline for the workshop is April 21.

Teachers should ask their school or intermediate school district (ISD) about the availability of Eisenhower funds to cover registration, substitute fees, and travel:

| | |
|---------------------------------------|--|
| Marquette-Alger ISD 906-226-5116 | Bob Koehs (Bkoehs@maisd.k12.mi.us) |
| Eastern U.P. ISD 906-635-2126 | Michelle Ribant (MRibant@eup.k12.mi.us) |
| Delta-Schoolcraft ISD 906-786-9300 | Debra Homeier (Dhomeier@dsisd.k12.mi.us) |
| Dickinson-Iron ISD 906-779-2653 | Dee Benjamin (DBenjamin@diisd.org) |
| Copper Country ISD 906-482-4250 | Shawn Oppliger (Sopplige@ccisd.k12.mi.us) |
| Gogebic-Ontonagon ISD 906-575-3438 | Joy Maki (Jmaki@goisd.k12.mi.us) |

CREDIT AVAILABLE

Teachers will have the option to take the workshop for credit. One ED989 credit from Northern Michigan University, or one ED5542 from Michigan Tech University. Cost for NMU and MTU credits is \$198 each. CEU credits will also be available to educators who participate in the entire workshop.

LOCATION

The workshop will be held in the beautiful outdoor setting of Bay Cliff Camp, located in Bay, north of Marquette on County Road 550. Bay Cliff offers forest, lake and bog ecosystems for field activities, as well as many hiking trails. The camp phone number is 906-345-9314.

ACCOMMODATIONS

Participants stay in cabins that sleep 12 persons. There is a dining hall, swimming pool and sauna available to participants.

WHAT TO BRING

| | |
|-----------------------|---------------------|
| sleeping bag | pillow |
| towel | warm clothing |
| binoculars (optional) | rain gear |
| warm jacket | flashlight |
| bed sheet (optional) | hat & mittens |
| sturdy walking shoes | musical instruments |

FOR MORE INFORMATION

To request registration materials or for more information contact David Kronk at Pictured Rocks National Lakeshore (david_kronk@nps.gov or 906-387-2607) or Marianne Kronk at Seney National Wildlife Refuge (marianne_kronk@fws.gov 906-586-9851 x16).

TEACHING WITH THE OUTDOORS WORKSHOP REGISTRATION FORM (Due April 21)

Payment

Send registration information and payment (make checks payable to SNHA) to:
Marianne Kronk, c/o Seney Natural History Association
1606 Refuge Entrance Rd., Seney, MI 49883

Name _____

Phone/Fax _____

Address _____

School/Other Affiliation _____

Email _____

Grade(s) Taught _____

Subject(s) Taught _____

FRIDAY Workshop Choices & Fees

10- 1pm Choose between three:

- (1) Energy Education Methods and Materials
- (2) Developing Residential Environmental Education Programs
- (3) Teaching Science Through a Native American Perspective

2-5pm Choose between three:

- (1) U.P. Geology Field Trip
- (2) Looks Count: Community Planning and the Visual Environment
- (3) Teaching with Birds

SATURDAY Workshop Choices & Fees

8-10am Choose between two:

- (1) Schoolyard Gardening: Teaching with Vegetables and Butterflies (\$20 additional materials fee)
- (2) Global Climate Change Activities

10:30 – 12:30 Choose between two:

- (1) Wonderwise: Women in Science
- (2) Bog Exploration and Teaching Tips

\$50 registration

\$25 registration for university students (both days)

\$_____ additional workshop materials fees

\$_____ **TOTAL WORKSHOP FEES (enclosed)**

Birding by the Bay

May 30, 31, & June 1

Munising, MI

FRIDAY,

4-10pm Registration

✦ Alger County Chamber of Commerce

SATURDAY, 4am Breakfast at

✦ Munising High School on M-28 West

5am Field Trips

✦ Piping plovers, Kirtland's warblers, Peregrine falcons, and MORE!

1-6pm Booths & Demos

✦ Munising High School on M-28 West

✦ Open to the public

Pre-register for choice of kayaking, boat cruises, bike Grand Island, or hike Pictured Rocks National Lakeshore.

Additional fees apply for most tours.

✦ Walk-ins can learn birding basics



5 pm - Scot Stewart

"Birding in the UP" slide show

6:30pm Banquet

7:30pm Keynote: "Dr. Avian Guano, BIR.D."

✦ Program at Munising High School

(included in registration, and tickets available at the door)

SUNDAY, 4am Breakfast

✦ (Munising High School)

5am Field trips

For more information visit the website at

midwest.fws.gov/seney/imbd

Registration fee includes breakfasts, field trips, banquet and keynote. \$35/adults, \$17.50 ages 12-17, children under 12 are free.

Pictured Rocks National Lakeshore

PO Box 40

Munising, MI 49862